

WHAT IS CLAIMED IS:

1. A semiconductor laser, which emits laser light through a light-emitting end surface, comprising:

a lower cladding layer, an active layer for generating laser light, a first upper cladding layer and an etching stopper layer stacked in this order on a substrate;

a second upper cladding layer formed in a shape of a ridge on the etching stopper layer, the ridge extending perpendicularly to the light-emitting end surface;

a current blocking layer disposed in regions on both sides of the second upper cladding layer; and

an impurity diffused in a portion extending along the light-emitting end surface from the etching stopper layer to the active layer and located at least under the ridge for local intermixing in this portion to restrain laser light absorption, wherein

in a region along the light-emitting end surface, the etching stopper layer has a bandgap smaller in portions thereof disposed in positions corresponding to both sides of the ridge than in a portion thereof located just under the ridge.

2. The semiconductor laser as claimed in claim 1, wherein

in the region along the light-emitting end surface, the active layer has a bandgap larger in a portion thereof located just under the ridge than in portions thereof disposed in positions corresponding to both sides
5 of the ridge.

3. The semiconductor laser as claimed in claim 2, wherein

in the region along the light-emitting end
10 surface, a photoluminescence wavelength shift to a shorter wavelength side due to the local intermixing of the active layer in the portion located just under the ridge is 18 nm or more, and a photoluminescence wavelength shift to the shorter wavelength side due to the local intermixing of the
15 active layer in the portions corresponding to both sides of the ridge is not larger than 15 nm.

4. The semiconductor laser as claimed in claim 1, wherein

20 the first upper cladding layer contains a diffused impurity of Be or C, and

the impurity diffused in said portion extending along the light-emitting end surface from the etching stopper layer to the active layer is Zn.

5. The semiconductor laser as claimed in claim 4,
wherein

the second upper cladding layer contains a
diffused impurity of Be or C.

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6. The semiconductor laser as claimed in claim 1,
wherein

the active layer comprises at least one quantum
well layer and barrier layers alternating with the quantum
10 well layer;

the at least one quantum well layer is
constructed of $(\text{Al}_x\text{Ga}_{1-x})_y\text{In}_{1-y}\text{P}$ ($0 \leq x \leq 1$ and $0 \leq y \leq 1$); and

the barrier layers are constructed of $(\text{Al}_x\text{Ga}_{1-x})_y\text{In}_{1-y}\text{P}$ ($0 \leq x \leq 1$ and $0 \leq y \leq 1$) whose Al content (x) is greater
15 than that of the quantum well layer.

7. The semiconductor laser as claimed in claim 6,
wherein

the etching stopper layer is constructed of
20 $\text{Ga}_y\text{In}_{1-y}\text{P}$ ($0 \leq y \leq 1$); and

the first and second upper cladding layers are
each constructed of $(\text{Al}_x\text{Ga}_{1-x})_y\text{In}_{1-y}\text{P}$ ($0 \leq x \leq 1$ and $0 \leq y \leq 1$).

8. The semiconductor laser as claimed in claim 1,
25 wherein

the active layer comprises at least one quantum well layer and barrier layers alternating with the quantum well layer;

the at least one quantum well layer is
5 constructed of $\text{In}_z\text{Ga}_{1-z}\text{As}$ ($0 \leq z \leq 1$) or $\text{Al}_x\text{Ga}_{1-x}\text{As}$ ($0 \leq x \leq 1$); and

the barrier layers are constructed of $\text{Al}_x\text{Ga}_{1-x}\text{As}$ ($0 \leq x \leq 1$) whose Al content (x) is greater than that of the quantum well layer when the latter is constructed of $\text{Al}_x\text{Ga}_{1-x}\text{As}$ ($0 \leq x \leq 1$).

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9. The semiconductor laser as claimed in claim 8, wherein

the etching stopper layer is constructed of $\text{Al}_x\text{Ga}_{1-x}\text{As}$ ($0 \leq x \leq 0.3$), and

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the first and second upper cladding layers are each constructed of $\text{Al}_y\text{Ga}_{1-y}\text{As}$ ($x < y \leq 1$).